

4. Kumar A, Nath G, Bhatia BD, Bhargava V, Loiwal V. An outbreak of multidrug resistant *Salmonella typhimurium* in a nursery. *Indian Pediatr* 1995; 32: 881-885.
5. Smith SM, Palumbo PE, Edelson PJ, Salmonella strains resistant to multiple antibiotics: Therapeutic implications. *Pediatr Infect Dis J* 1984; 3: 455-460.
6. Kambal AM, AL-Sugair S, AL-Ballaa SR, AL-Hediathy M, AL-Balla SUR, Saeed NS. Enteric fever due to multidrug resistant *Salmonella typhi*. *Ann Saudi Med* 1993; 13: 246-249.
7. Asbkenazi S, Cleary TG. Salmonella infection. In: Nelson Textbook of Pediatrics, 15th edn. Eds. Behrman RE, Kleigman RM, Vaughan VC III, Nelson WE. Philadelphia, W.B. Saunders Co, 1996; pp 784-788.
8. Cherubin CE, Fodor T, Denmark LJ, Master CS, Fuerst HT, Winter JW. Symptoms, septicemia and death in salmonellosis. *Am J Epidemiol* 1969; 90: 285-291.
9. Puri V, Thirupuram S, Khalil A, Verghese A, Gupta S. Nosocomial *Salmonella typhimurium* epidemic in a neonatal special care unit. *Indian Pediatr* 1980; 27: 233-239.
10. Sasidharan CK, Rajagopal KC, Jayaram Panicker CK. *Salmonella typhimurium* epidemic in new born nursery. *Indian J Pediatr* 1983; 50: 599-605.
11. Easmon CSF, Crene JP, Blowers A. Effect on ciprofloxacin on intracellular organisms: *in vitro* and *in vivo* studies. *J Antimicrob Chemother* 1986; 18 (Suppl D): 43-48.

Status of Receipt of ICDS Package of Services by Under Three Children and Pregnant Mothers in District Agra

Deepika Nayar
Umesh Kapil
Deoki Nandan

The present study was undertaken with the objective to assess the receipt of package of services under the Integrated Child Development Services (ICDS) scheme by under three children and pregnant mothers in three ICDS projects in district Agra. In the present evaluation services related to immunization, supplementary nutrition, supplementation of specific nutrients (vitamin A and iron and folic acid), health checkup and treatment of minor ailments were included.

Subjects and Methods

The study was conducted during the year 1996 in district Agra, Uttar Pradesh. Three ICDS projects, namely Fatehpursikri, Khandoli and Bichpuri were selected for the study and these have been referred as projects A, B, and C respectively.

All the Anganwadi centers (AWCs) in each project were enlisted. In each project one circle area of supervisor consisting of

*From the Department of Human Nutrition, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110 029 and *Department of Social and Preventive Medicine. S.N. Medical College, Agra, U.P.*

Reprint requests: Dr. Umesh Kapil, Additional Professor, Department of Human Nutrition, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110 029.

*Manuscript received: October 13, 1997;
Initial review completed: October 28, 1997;
Revision accepted: November 11, 1997*

25 AWCs were selected for the detailed study. A total population of 76,585 was catered by the 75 AWCs included in the study.

In each AWC, the secondary data was utilized for identifying the families registered for the ICDS services. The data presented in this communication pertains to the families registered with the AWCs which had an under three child.

Data on receipt of ICDS package of services by the beneficiaries was collected by undertaking domiciliary visits. The status of receipt of services in terms of immunization. Supplementary nutrition, specific nutrients, health checkup and treatment of minor ailments by the under three was collected by interviewing the mother.

The mother of the under three, if pregnant, was also interviewed for the utilization of services with special reference to receipt of supplementary nutrition and iron and folic acid tablets. If the mother of the child was not at home a repeat visit was undertaken. The data obtained by the interview was substantiated with the AWC records and the health cards available with the beneficiaries.

Results

A total of 729 pregnant mothers (240 in Project A, 154 in project B, and 335 in Project C) were studied. Supplementary nutrition was received by only 31.2, 48 and 20% of the mothers in Projects A, B and C respectively. It was observed that 34.1% (Project A), 57.8% (Project B) and 53.1% (Project C) of the pregnant mothers received iron and folic acid tablets.

Table I presents the distribution of children 12-23 months of age according to their immunization status in the selected/projects. It was found that 83.2% (Project A), 82.1% (Project B), and 88.4% (Project C)

of the children received BCG vaccination. A total of 72, 64.3 and 79.1% of the children in Projects A, B, and C received the third dose of DPT vaccination, respectively.

The receipt of supplementary nutrition by registered eligible under three child beneficiaries was 42.4% in Project A, 53.7% in Project B and 35% in Project C. It was observed that in Projects A, B and C, 38.4, 13 and 43.4% of the children received a mega dose of vitamin A during the last six months of the day pf survey, respectively. Health checkup was conducted for 39.2% in Project A, 57.4% in Project B and 27% in Project C of the under three children (*Table II*).

Discussion

The present study revealed that supplementary nutrition was received by 20 to 48% of the pregnant mothers. Similar findings have been reported earlier in which 43-47% of the pregnant women received supplementary nutrition(1,2). The low coverage by supplementary nutrition in the projects studied may be possibly due to irregular supplies and non acceptance of supplementary nutrition.

In an earlier study the coverage with respect to iron and folic acid tablets was observed to be 56.8%(1). An evaluation revealed that 46.3% of the pregnant mothers received iron and folic acid tablets in the ICDS areas while a lower percentage (31.2%) received the same in the non-ICDS areas(2). The mean coverage for the state as a whole has been reported to be 29.6%(3). Similar findings were observed in the present study; however, results were higher than the state average.

An earlier study showed that immunization coverage in children 12-23 months of age in the ICDS areas was BCG - 69.9% DPT - 68.6%, OPV - 68.4% and measles - 49.4% while in the non - ICDS areas the

coverage was BCG - 57%, DPT - 52.3 %, OPV - 52% and measles - 33.3%(1). Immunization coverage in the present study was better.

Findings similar to the present study have been reported in other surveys in which about 50-53% of children in 0-3 years of age received supplementary nutrition(1,2).

In a study undertaken in 0-2 years age group, vitamin A megadose was received by 24.4% of the children in ICDS areas as compared to 15.8% in the non-ICDS areas. Similarly, iron and folic acid tablets were received by 17.3% of the children while

only 8.6% received the same in the non-ICDS areas(1). An evaluation revealed that 37.9% of the children in the ICDS areas received vitamin A dose while 20.6% received it in the non-ICDS areas(2). Similarly, 30 and 15% of the children received iron and folic acid tablets in the ICDS and non-ICDS areas, respectively(2). The present study highlights a lower coverage of beneficiaries with respect to iron and folic acid supplementation.

It was observed that health checkup of 27 to 57% of the children was undertaken in the present survey. An earlier evaluation also revealed that health checkup was conducted for 45.9% of the children in the

TABLE I—Immunization Status of Children 12-23 Months of Age (n = 1781).

Immunization	Project A	Project B	Project C
	Fatehpursikri (n = 673)	Khandoli (n = 460)	Bichpuri (n = 648)
DPT III	489 (72.6)	296 (64.3)	513 (79.1)
OPV III	489 (72.6)	271 (58.9)	514 (79.3)
Measles	394 (58.5)	169 (36.7)	444 (68.5)
BCG	560 (83.2)	378 (82.1)	573 (88.4)

Figures in parentheses denote percentages

TABLE II—Receipt of Supplementary Nutrition, Vitamin A dose, IFA Tablets, Health Checkup and Treatment for Minor Ailments by the Under Three Children.

Services	Project A	Project B	Project C
	Fatehpursikri (n = 2072)	Khandoli (n = 1415)	Bichpuri (n = 2022)
SN	880 (42.4)	761 (53.7)	709 (35.0)
Vitamin A dose	796 (38.4)	185 (13.0)	879 (43.4)
IFA tablets	30 (1.4)	24 (1.7)	30 (1.5)
Health checkpu	813 (39.2)	812 (57.4)	546 (27.0)
Treatment of minor ailments	525 (25.3)	611(43.2)	623 (30.8)

Figures in parentheses denote percentages

SN : Supplementary Nutrition IFA : Iron and Folic Acid Tablets

ICDS areas as compared to 26.6% in the non-ICDS areas(2).

According to Ghosh(4) in a recent publication, "the ICDS blocks have kept multiplying without serious evaluations of design, content, methodology, training, supervision, *etc.*; no lessons have been learnt from the shortfalls because no one in authority has seriously wanted to look into these and make any mid-course changes as if what was envisaged twenty years ago, will stand the test of time".

The present study also revealed that the utilization of ICDS services requires strengthening in the areas studied.

REFERENCES

1. Integrated Child Development Services. Survey, Evaluation and Research 1975-1995. Central Technical Committee. Department of Women and Child Development. Ministry of Human Resource Development. New Delhi, Arsan Press, 1996; pp 29-191.
 2. National Evaluation of Integrated Child Development Services. National Institute of Public Cooperation and Child Development. New Delhi, National Institute of Public Cooperation and Child Development Press, 1992; pp 63-89.
 3. National Workshop on Early childhood Development - A Report. Department of Women and Child Development, Ministry of Human Resource Development. Government of India with World Bank and UNICEF Cooperation. New Delhi, Nikhil Offset, 1996: p 44.
 4. Ghosh S. Integrated Child Development Services Programme - Need for re-appraisal. *Indian Pediatr* 1997; 34: 911-918.
-